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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------|------------------|
| 10/782,468   | 02/19/2004  | Myoung Seon Choi     | U 015038-4           | 4837             |
| 140  | 7590        | 12/09/2005           | EXAMINER             |                  |
| LADAS & PARRY<br>26 WEST 61ST STREET<br>NEW YORK, NY 10023 |             |                      | AGUIRRECHEA, JAYDI A |                  |
|  |             |                      | ART UNIT             | PAPER NUMBER     |
|  |             |                      | 2834                 |                  |

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/782,468

Applicant(s)

CHOI ET AL.

Examiner

Jaydi A. Aguirrechea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The substitute specification filed 9/19/05 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: The substitute specification filed must be accompanied by a statement that it contains no new matter.
2. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification contains terms that are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: paragraph 2 in page 4.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
4. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.
  - In equation (1):  $k_t$ ,  $C_0$ ,  $A$ ,  $\omega$  and  $\omega_0$  are not defined.
  - In equation (2):  $-C_0$ , and  $c$  are not defined.
  - If  $Z_f$  is the effective impedance of the front load,  $Z_f^{(0)}$  is the effective impedance of the front load, at what frequency?

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- In equation (3):  $\ln \frac{Z_{i+1}}{Z_i} = 2^{-n} C_i^n \ln \frac{Z_i}{Z_f^{(o)}}$

- where  $i=0, \dots, n$ ;

- $n$  is not defined.

- $Z_0 = (Z_f)^{(0)}$ ;

- $Z_0$  is not defined. What is the value of  $Z_0$ ?

- $Z_{n+1} = Z_i$ ; and

- $Z_i$  is not defined.

- In table 2: It is not defined what the Applicants mean by the superscripts  $3/4$ ,  $7/8$ ,  $1/4$ ,  $1/2$ ,  $1/8$ .

- What is the “free” resonant frequency?

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

6. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Examples of indefiniteness follow.

7. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

8. Claims 1-3 are directed to a method of designing an acoustic matching layer, however, no steps are provided in the body of the claims. Although the presented wording may suggest a step, it is not clear what the actual step comprises. For example, it is not clear how the front load effective impedance is selected as a design parameter. Is it at random? Is it an inherent

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characteristic of the tested object? What are the characteristics of this impedance? Or is it the actual inventive step of the instant application? What is the difference between the front load impedance and the effective impedance of the front load? How are they determined?

9. In claim 3, what is the optimized design parameter referring to?

10. With regards to claim 4,

- In step (1): What do applicants mean by “a certain front load”? Where is it going to be inputted? How are the sensitivity, pulse width and performance index of the piezoelectric transducer computed?
- In step (2): How is the minimum value of the front load effective impedance is selected?
- In steps (3) and (4): as stated above, most of the indexes and variables have not been defined in the claim or in the Specification.

11. Claims 1 and 4 are indefinite because the term “etc.” is improper.

***Response to Amendment***

12. It is noted the missing definitions of elements that were pointed out in the previous office action have been defined in the Remarks presented on 9/19/05. However, these elements and definitions should be part of the claims, since the claims must stand-alone.

13. It is also noted that the Applicants did not address any of the cited references. Applicant must discuss the cited references (Cited in the previous office action), explaining how the claims avoid the references or distinguish from them.

14. Applicant is required to submit an amendment that clarifies the disclosure and claims so that the examiner may make a proper comparison of the invention with the prior art.

Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed).

***Conclusion***

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

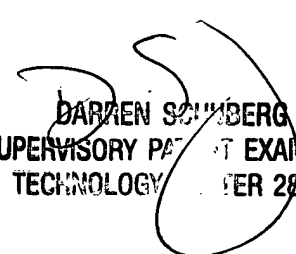
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jaydi A. Aguirrechea whose telephone number is 571-272-2018. The examiner can normally be reached on M-Th 9-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JAA  
12/4/05

  
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SUPERVISORY PATENT EXAMINER  
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